REMARKS

The following remarks are made in response to the Office Action mailed Dec.16, 2005. Claims 1-20 were rejected. Claims 1-3 have been amended. Claims 1-20 remain pending in the application and are presented for reconsideration and allowance.

Claim Rejections under 35 U.S.C. § 103

Claims 1-20 are rejected under 35 U.S.C. §103(a) as being anticipated by U.S. Patent No. 6,002,868 (Jenkins) in view of U.S. Patent No. 4,315,330 (Brickman).

Claim 1, as amended, recites, *inter alia*:

> a first expansion slot coupled to the first I/O controller; and
> a test module card directly coupled to the first expansion slot;
> wherein the test module card is configured to obtain access to a portion of the memory from the operating system, and wherein the test module card is configured to cause tests to be performed on the portion of the memory using direct memory access (DMA) subsequent to obtaining access to the portion of the memory.

Applicants respectfully submit that Jenkins and Brickman, either alone or in combination, do not teach or suggest all of the recited features of claim 1.

As previously noted, Jenkins does not teach or suggest "a test module card directly coupled to the first expansion slot" as recited in claim 1. The Office Action cites column 1, lines 31-32 of Jenkins as a teaching or suggestion of this feature of claim 1. At column 1, lines 31-32, Jenkins teaches "[a] specific module is provided to test each device." This portion of Jenkins does not teach or suggest "a test module card directly coupled to the first expansion slot" as recited in claim 1.

Jenkins appears to teach a "hard disk drive 124" that contains a "diagnostic application 150" rather than a "test module card" as recited in claim 1. See, e.g., column 3, line 67 to column 4, line 2 and Figure 1. Jenkins also teaches PCI slots 120 and ISA slots 138. See Figure 1. Jenkins does not teach or suggest that the diagnostic application 150 is directly coupled to PCI slots 120 or ISA slots 138. Accordingly, Jenkins does not

teach or suggest "a test module card directly coupled to the first expansion slot" as recited in claim 1.

In addition, Brickman does not teach or suggest "a first expansion slot coupled to the first I/O controller" or "a test module card directly coupled to the first expansion slot" as recited in claim 1. Brickman teaches a "port test card 300" that "can physically reside on any voice/data board 27 where it shares the common data transmit bus 44*a* and receive bus 44*b*". Column 59, lines 15-18. Brickman also teaches "[t]he test card further includes a direct memory access (DMA) control connected between a data output from the RAM and the transmit bus and connected between a data input to the RAM and the receive bus." Column 3, lines 1-5; see also column 59, lines 63-66. Brickman further teaches that "[a] voice port 20 or data port 14, 16, or 18 will be logically connected to the test card 300 via an intranodal connection through the intranodal buffer 56. These connections are controlled by entries into the switch control memory (SCM) 50." Column 59, lines 21-25. Because Brickman does not teach or suggest "a first expansion slot coupled to the first I/O controller" as recited in claim 1, Brickman does not teach or suggest "a test module card directly coupled to the first expansion slot" as recited in claim 1.

As described above, neither Jenkins nor Brickman teach or suggest "a test module card directly coupled to the first expansion slot" as recited in claim 1. Accordingly, Applicants respectively submit that claim 1 patentably distinguishes over Jenkins in view of Brickman for at least this reason.

Claim 1 further recites "wherein the test module card is configured to obtain access to a portion of the memory from the operating system, and wherein the test module card is configured to cause tests to be performed on the portion of the memory using direct memory access (DMA) subsequent to obtaining access to the portion of the memory." As noted in the Office Action, Jenkins does not teach or suggest these features of claim 1. Brickman also does not teach or suggest these features of claim 1.

Brickman teaches that "[t]here is one port test card 300 for the purpose of testing any SCC voice port 20 or data port 14, 16, or 18 and for testing certain portions of the digital switch 30." Column 59, lines 11-14; see also column 59, lines 33-37 and column 60, line 25 to column 61, line 15. Brickman also teaches that "the test port card includes

... a random access memory (RAM) 320, and a read-only memory (ROM) 318", column 59, lines 38-42. Brickman does not teach or suggest "wherein the test module card is configured to obtain access to a portion of the memory from the operating system" as recited in claim 1. In addition, Brickman does not teach or suggest "wherein the test module card is configured to cause tests to be performed on the portion of the memory using direct memory access (DMA) subsequent to obtaining access to the portion of the memory" as recited in claim 1.

As described above, neither Jenkins nor Brickman teach or suggest the above features recited in claim 1. Applicants respectively submit that claim 1 patentably distinguishes over Jenkins in view of Brickman for at least these reasons.

Claims 2-8 depend from claim 1 and are believed to patentably distinguish over the cited references for at least the above reasons. Accordingly, Applicants respectfully request the withdrawal of the rejection of claims 1-8 under 35 U.S.C. §103(a).

As previously noted, claim 6 further recites "wherein the read and write transactions comprise DMA transactions". The Office Action cites column 3, line 56 of Jenkins as a teaching or suggestion of this feature of claim 6. At column 3, lines 55-57, Jenkins teaches that "[t]he PCI-to ISA bridge 122 integrates many of the common ISA peripherals, such as a DMA (Direct Memory Access) Controller ... ." This portion of Jenkins only identifies the existence of a DMA controller and does not teach or suggest "wherein the read and write transactions comprise DMA transactions" as recited in claim 6. Brickman also does not teach or suggest this feature of claim 6. Accordingly, Applicants respectively submit that claim 6 patentably distinguishes over the cited references for at least this additional reason.

Claim 9 recites, *inter alia*:

> obtaining access to a portion of a memory of a computer system from an operating system during operation of a computer system;
>
> generating a test transaction in a test module card directly coupled to an expansion slot of the computer system; and
>
> providing the test transaction to the portion using direct memory access (DMA) subsequent to obtaining access to the portion of the memory.

Applicants respectfully submit that Jenkins and Brickman, either alone or in combination, do not teach or suggest all of the recited features of claim 9.

Jenkins does not teach or suggest "obtaining access to a portion of a memory of a computer system from an operating system during operation of a computer system" as recited in claim 1. Although the Office Action cites Column 1, lines 28-31 of Jenkins as a teaching or suggestion of this feature (Office Action at page 3), the Office Action also states that Jenkins "does not appear to explicitly disclose ... [that] the test module card is configured to obtain access to a portion of the memory from an operating system ...." Office Action at page 6. At column 1, lines 28-31, Jenkins teaches that "[t]his tool provides a suite of tests which can be run on the personal computer to test a variety of devices, such as memory, hard disks, floppy disks and serial ports." This portion of Jenkins does not teach or suggest "obtaining access to a portion of a memory of a computer system from an operating system during operation of a computer system" as recited in claim 9.

Although Brickman teaches a "port test card" as noted above with reference to claim 1, Brickman does not teach or suggest "obtaining access to a portion of a memory of a computer system from an operating system during operation of a computer system" as recited in claim 9.

As described above, neither Jenkins nor Brickman teach or suggest "obtaining access to a portion of a memory of a computer system from an operating system during operation of a computer system" as recited in claim 9. Accordingly, Applicants respectively submit that claim 9 patentably distinguishes over Jenkins in view of Brickman for at least this reason.

In addition, neither Jenkins nor Brickman teach or suggest "generating a test transaction in a test module card directly coupled to an expansion slot of the computer system" as recited in claim 9 for at least reasons similar to those given above with reference to claim 1. Accordingly, Applicants respectively submit that claim 9 patentably distinguishes over Jenkins in view of Brickman for at least this additional reason.

Further, neither Jenkins nor Brickman teach or suggest "providing the test transaction to the portion using direct memory access (DMA) subsequent to obtaining access to the portion of the memory" as recited in claim 9 for at least reasons similar to

those given above with reference to claim 1. Accordingly, Applicants respectively submit that claim 9 patentably distinguishes over Jenkins in view of Brickman for at least this further reason.

As described above, neither Jenkins nor Brickman teach or suggest the above features recited in claim 9. Applicants respectively submit that claim 9 patentably distinguishes over Jenkins in view of Brickman for at least these reasons.

Claims 10-14 depend from claim 9 and are believed to patentably distinguish over the cited references for at least the above reasons. Accordingly, Applicants respectfully request the withdrawal of the rejection of claims 9-14 under 35 U.S.C. §103(a).

Applicants respectfully submit that Jenkins and Brickman, either alone or in combination, do not teach or suggest all of the recited features of claim 15 and that claim 15 patentably distinguishes over the cited references for at least the reasons given above for claim 1. Claims 16-20 depend from claim 15 and are believed to patentably distinguish over the cited references for at least the above reasons. Accordingly, Applicants respectfully request the withdrawal of the rejection of claims 15-20 under 35 U.S.C. §103(a).

As previously noted, claim 19 recites "wherein the test module card is configured to cause tests to be performed on the memory using direct memory access (DMA)". The Office Action cites column 3, lines 55-57 of Jenkins as a teaching or suggestion of this feature of claim 19. At column 3, lines 55-57, Jenkins teaches that "[t]he PCI-to ISA bridge 122 integrates many of the common ISA peripherals, such as a DMA (Direct Memory Access) Controller ... ." This portion of Jenkins only identifies the existence of a DMA controller and does not teach or suggest "wherein the test module card is configured to cause tests to be performed on the memory using direct memory access (DMA)" as recited in claim 19. Jenkins does not appear to teach or suggest that diagnostic application 150 is "is configured to cause tests to be performed on the memory using direct memory access (DMA)" as recited in claim 19. Brickman also does not teach or suggest this feature of claim 19. Accordingly, Applicants respectively submit that claim 19 patentably distinguishes over the cited references for at least this additional reason.

CONCLUSION

In view of the above, Applicants respectfully submit that pending claims 1-20 are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 1-20 is respectfully requested.

The Examiner is invited to contact the Applicants' representative at the below-listed telephone numbers to facilitate prosecution of this application.

Any inquiry regarding this Amendment and Response should be directed to either David A. Plettner at Telephone No. (408) 447-3013, Facsimile No. (408) 447-0854 or Christopher P. Kosh at Telephone No. (512) 231-0533, Facsimile No. (512) 231-0540. In addition, all correspondence should continue to be directed to the following address:

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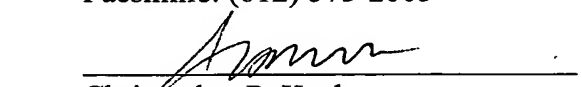

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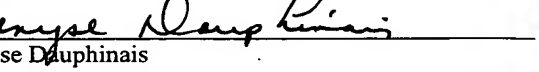
By 
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